Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

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65. (New) A method for interfacing between requestors of availability information and sources of availability information, comprising:

(a) receiving availability requests from the requestors;

(b) prioritizing the availability requests;

(c) processing the availability requests according to the associated priorities;

(d) selecting one or more of the availability information sources to be queried for each of the selected availability requests based at least in part on one or more factors associated with the requestors, the requests, the requested availability information, and/or the availability information sources;

(e) querying the selected availability information sources; and

(f) providing results from the querying to the requestors.

66. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on the time of receipt of the availability requests.

67. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on time-out parameters associated with the requests.

68. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on requestor preferences.

69. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on identities of the requestors.

70. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on the time remaining prior to events associated with the requested availability information.

71. (New) The method according to claim 65, wherein step (b) comprises prioritizing the availability requests based at least in part on requestor profiles.

72. (New) The method according to claim 65, wherein step (b) comprises prioritizing availability requests received from an automated process according to policies associated with automated processes.

73. (New) The method according to claim 65, wherein step (b) comprises prioritizing availability requests received from a proactive cache-filling process according to policies associated with the proactive cache-filling process.

74. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on the age of cached data.

75. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on availability of the availability information sources.

76. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on bandwidth of the availability information sources.

77. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on reliability of the availability information sources.

78. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on requestor preferences.

79. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on privilege levels associated with the requestors.

80. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on policies associated with the requestors.

81. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on policies associated with the availability information sources.

82. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on authentication of the requestors.

83. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on profiles of the requestors.

84. (New) The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on time-out parameters associated with the requests.

85. (New) The method according to claim 65, wherein step (a) comprises receiving the availability requests over a network.

86. (New) The method according to claim 81, wherein step (a) further comprises receiving the availability requests over a transmission control protocol ("TCP") based network.

87. (New) The method according to claim 65, wherein step (a) comprises receiving compressed availability requests.

88. (New) The method according to claim 65, wherein step (d) comprises selecting from amongst at least the following availability information sources:

one or more real-time query availability information sources; and

one or more non-real-time query availability information sources.

89. (New) The method according to claim 88, wherein the one or more non-real-time query availability information sources include cached information.

90. The method according to claim 89, wherein the one or more non-real-time query availability information sources further include predicted information.

91. The method according to claim 90, wherein the predicted information includes yield management predicted information.

92. The method according to claim 90, wherein the one or more non-real-time query availability information sources further include calculated information.

93. The method according to claim 92, wherein the calculated information includes simulated yield management calculated information.

94. The method according to claim 92, wherein step (d) further comprises selecting from amongst at least the following availability information sources:

one or more real-time query availability information sources;

one or more non-real-time query availability information sources; and

one or more pushed availability information sources.

95. The method according to claim 94, wherein the one or more pushed availability information sources include pushed availability server messages.

96. The method according to claim 94, wherein step (d) further comprises selecting from amongst at least the following availability information sources:

one or more real-time query availability information sources;

one or more non-real-time query availability information sources;

one or more pushed availability information sources; and

one or more packet sniffing availability information sources.

97. The method according to claim 96, wherein the one or more non-real-time query availability information sources further include information inferred from other queries.

98. The method according to claim 97, wherein the information inferred from other queries includes information inferred from seat map queries.

99. The method according to claim 97, wherein the one or more non-real-time query availability information sources further include synthesized information.

100. The method according to claim 99, wherein the synthesized information includes synthesized information for debugging purposes.

101. The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on a requestor provided availability source cost threshold.

102. The method according to claim 65, wherein step (d) comprises selecting one or more of the availability information sources based at least in part on requestor preferences associated with a sequence of the availability information sources to query.

103. The method according to claim 65, wherein step (a) further comprises receiving requestor preferences defining a policy.

104. The method according to claim 103, wherein step (a) further comprises receiving requestor preferences defining a policy that specifies the use of cached information only if the cached information is within an age limit.

105. The method according to claim 65, wherein step (d) comprises selecting amongst availability information sources having different properties.

106. The method according to claim 105, wherein step (d) further comprises selecting amongst availability information sources having different properties associated with one or more of:

(a) cost;
(b) timeouts;
(c) latency;
(d) bandwidth;
(e) accuracy of data; and
(f) age of data.

107. The method according to claim 65, wherein step (d) comprises selecting a cached information source in place of real-time information, transparent to the requestor.

108. The method according to claim 65, wherein step (d) comprises selecting calculated information in place of real-time information, transparent to the requestor.

109. The method according to claim 65, wherein step (d) comprises selecting cached information in place of calculated information, transparent to the requestor.

110. The method according to claim 65, wherein step (e) comprises querying the selected availability information sources via gateways.

111. The method according to claim 65, wherein step (f) comprises providing reply messages.

112. The method according to claim 111, wherein step (f) further comprises providing encoded reply messages.

113. The method according to claim 111, wherein step (f) further comprises compressing the reply messages.

114. The method according to claim 111, wherein step (f) further comprises broadcasting the reply messages.

115. The method according to claim 111, wherein step (f) further comprises sending the reply messages over a network.

116. The method according to claim 65, wherein one or more aspects of one or more of steps (a) through (f) are executed with a multi-threading computer process.

117. The method according to claim 116, wherein one or more aspects of one or more of steps (a) through (f) are executed with a producer-consumer thread model.

118. The method according to claim 117, further comprising:

generating query components from the availability requests;

placing the query components in a queue for processing;

spawning producer threads for the query components in the queue, and using the producer threads to gather data for processing of the query components; and

spawning consumer threads to process the query components in the queue using the data generated by the producer threads.

119. The method according to claim 65, further comprising distributing one or more aspects of one or more of steps (a) through (f) across multiple computer machines.

120. The method according to claim 119, further comprising executing aspects of one or more of steps (a) through (f) in a distributed fashion across the multiple computer machines.

121. The method according to claim 119, further comprising storing one or more aspects of one or more of steps (a) through (f) in memory distributed across the multiple computer machines.

122. The method according to claim 119, further comprising broadcasting information across the multiple computer machines.

123. The method according to claim 65, further comprising performing one or more aspects of one or more of steps (a) through (f) in a multi-layered environment.

124. The method according to claim 123, further comprising performing one or more aspects of one or more of steps (a) through (f) in one or more of:

(a) a query-distribution layer that performs a load balancing function;

(b) a caching layer that manages one or more cache processes; and

(c) a gateway layer that manages connections with the sources of availability information.

125. The method according to claim 65, further comprising storing availability information in memory for use with later availability requests.

126. The method according to claim 125, further comprising storing the availability information in memory using a bucketing approach.

127. The method according to claim 126, further comprising apportioning the availability information to buckets according to a first criterion, and ordering the availability information within each bucket according to a second criterion.

128. The method according to claim 127, further comprising generating availability requests to update stored availability information when the availability information stored in one of the buckets exceeds a threshold associated with the second criterion, and periodically re-apportioning the availability information amongst the buckets according the first criterion.

129. The method according to claim 128, further comprising apportioning the availability information to buckets according to a time to an event associated with the availability information, and ordering the availability information within each bucket according to the reliability of the availability information.

130. The method according to claim 125, further comprising storing the availability information in memory using a hash table.

131. The method according to claim 125, further comprising compressing the results from the querying in memory.

132. The method according to claim 65, wherein step (a) comprises receiving an approximate time to an event for which availability information is sought by the requestor, and wherein step (e) comprises querying a selected availability information source within a range of time of the approximate time.

133. The method according to claim 132, further comprising storing the availability information in memory using a hash table, wherein an associated hash function receives as input rounded times to events associated with the availability information, and wherein actual times to the events are stored at corresponding hash table entries, wherein step (d) comprises searching the

hash table for the availability information by rounding the approximate time to event for which availability information is sought by the requestor, and providing the rounded time to the hash function to identify a hash table entry.

134. The method according to claim 65, further comprising maintaining a run control file that controls one or more aspects of one or more of steps (a) through (f).

135. The method according to claim 134, further comprising maintaining a run control file that includes policy settings.

136. The method according to claim 134, further comprising maintaining a run control file that determines how resources are distributed across multiple processing machines.

137. The method according to claim 134, further comprising maintaining a run control file that includes query distribution settings.

138. The method according to claim 134, further comprising maintaining a run control file that includes cache settings.

139. The method according to claim 134, further comprising maintaining a run control file that includes gatewaying settings.